

NATUNLD Utility

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Invoking NATUNLD

 **To invoke the NATUNLD utility**

- In batch mode (see also Executing NATUNLD in Batch Mode), enter a direct command.
- Online, enter the system command NATUNLD.
The Unload Programming Objects menu of the NATUNLD utility is displayed.

Programming Objects

When you invoke NATUNLD online, the Unload Programming Objects screen is displayed. For unloading in batch mode, see Executing NATUNLD in Batch Mode.

Below is information on:

- Functions for Programming Objects
- Parameters for Programming Objects

Functions for Programming Objects

From the Unload Programming Objects screen, you can invoke the following functions by entering a code, or a command in the command line, or by pressing a PF key:

Code	PF Key	Function	Explanation
	Command		
A		Unload All/Individual Objects	Unloads objects which exist in any form: in saved form, or cataloged form or both.
S		Unload only Saved Objects	Unloads only objects which exist in saved form.
C		Unload only Cataloged Objects	Unloads objects which exist in cataloged form.
W		Unload Saved and Cataloged Objects	Unloads objects which exist in both saved and cataloged form. (*)
B		Unload Stowed Objects	Unloads objects which exist in both saved and cataloged form and which were saved and cataloged at the same time. The check that the saving and cataloging of an object occurred at the same time ensures that the saved and cataloged form of an object actually belong together. (*)
	PF4 (E-Msg) ERROR	Unload Error Messages	See the section Error Messages.
	PF5 (DDMs) DDM	Unload DDMs	See the section DDMs.
	PF7 (Del.) DELETE	Unload Delete Instructions	See the section Delete Instructions for Programming Objects.
	PF10 (Files) FILES	File Assignments for NATUNLD	See File Assignments in the section Introduction.

* Objects of type copycode, text and recording - although they can exist only in saved, but not in cataloged form - are also processed by these functions.

If you want to unload DDMs, you press PF5 (DDMs) on the Unload Programming Objects screen to invoke the function Unload DDMs, as described in the section DDMs.

If you want to write delete instructions to the work file, you press PF7 (Del.) on the Unload Programming Objects screen to invoke the function Unload Delete Instructions, as described in the section Delete Instructions for Programming Objects.

Each of the above functions unloads Natural programming objects from one or more libraries on the system files FNAT or FUSER. Libraries whose names begin with SYS (except for the library SYSTEM) are, by default, unloaded from the FNAT file; all other libraries are unloaded from the FUSER file. See also File Assignments in the section Introduction.

To execute one of the functions on the Unload Programming Objects screen, enter the corresponding function code and, if required, the parameters described below.

Parameters for Programming Objects

The Unload Programming Objects screen provides the following parameters:

Field	Explanation
From Library	<p>The name of the library from which the objects are to be unloaded. By default, the library is selected from which NATUNLD was called. To select multiple libraries, see Names and Ranges in the section Introduction.</p> <p>Note: Under Natural Security, the setting of the NATUNLD utility profile or the Utility option in the corresponding library profile determines whether you are authorized to unload objects from a selected library. If the Natural Security option Transition Period Logon is set to Y, objects from libraries which have not been defined to Natural Security can also be unloaded.</p>
To Library	<p>The name of the library into which the unloaded objects are to be loaded with NATLOAD. If you leave this field blank or enter an asterisk (*), the name of the library specified in the From Library field is used.</p> <p>Note: If you have specified a range as library in the From Library field, the specification in the To Library field name may be a range too, but the number of characters before the asterisk (*) must not exceed the number of characters before the asterisk in the From Library field.</p>
Object Name	<p>The name of the object to be unloaded. If you leave this field blank or enter an asterisk (*), all objects in the library (or libraries) specified under From Library are unloaded.</p> <p>Within the object name, you can specify any combination of asterisk notation (*) and wildcard notation (?) in the same manner as described for the system command LIST (Natural System Command Reference documentation) to unload a specific range of objects.</p> <p>See also Names and Ranges in the section Introduction.</p>
User ID	<p>If you enter a user ID in this field, only those objects are unloaded which were saved or cataloged under this user ID. To specify a range of user IDs, see Names and Ranges in the section Introduction.</p>
Symbol Table	<p>Specifies whether the objects' symbol tables are also to be unloaded:</p> <p>Y The selected objects will be unloaded with their corresponding symbol tables (this is the default).</p> <p>N The selected objects will be unloaded without their corresponding symbol tables. This will reduce the amount of disk storage required. However, this is only useful for a production environment, as several application development functions which require the symbol tables will then not be available; in addition, the profile parameter RECAT=ON will not apply.</p>
PC Download	<p>Only applies if Entire Connection is installed and if you have entered the terminal command "%+" before invoking NATUNLD; otherwise, you cannot enter anything in this field.</p> <p>In this field, you specify whether the work file containing the specified objects is to be downloaded to a PC using Work File 7.</p>

Field	Explanation
Set Number	<p>It is possible to unload objects that are defined in a Predict set as created with the Predict utility List XREF.</p> <p>To unload the object contained in a Predict set, specify the number of that set in this field. The set is identified by the set number, the library ID as specified in the From Library field, and the ID of the user who created the set as specified in the Set User field in the "File Assignments for NATUNLD" window. See also File Assignments in the section Introduction.</p> <p>If you specify a set number, you can only specify the name of a single library (no range) in the From Library field.</p> <p>By default, your current user ID (that is, the value of the system variable *USER) is used as user ID for the set. To change the user ID for the set, either enter the command FILES in the command line or press PF10 (Files) and then overwrite the value of the Set User field in the "File Assignments for NATUNLD" window. See also File Assignments in the section Introduction.</p>
Xref Data	<p>Only applies with Predict and if the Predict Active References feature is installed.</p> <p>In this field, you specify whether the corresponding cross-reference data are to be unloaded with the objects:</p> <p>Y If a cataloged object has cross-reference data, these are unloaded with the object.</p> <p>N Only the cataloged object is unloaded, but any cross-reference data are ignored (this is the default).</p>
Object Type	<p>The type of objects to be unloaded.</p> <p>If you leave this field blank or enter an asterisk (*), all objects with the names specified under Object Name are unloaded regardless of their types.</p> <p>For a selection list of possible object types, either enter a question mark (?) in this field or press PF1 (Help).</p> <p>Note: You can specify several object types at the same time and in any sequence; for example, specifying PAM unloads programs, parameter data areas and maps.</p>
Date/Time From	Only those objects are unloaded which were saved or cataloged on or after/before this date and time.
Date/Time To	See Dates and Ranges in the section Introduction for further details.

DDMs

To invoke the Unload DDMs function

- Enter the command DDM in the command line.
Or press PF5 (DDMs) on the Unload Programming Objects or Unload Error Messages screen.
The Unload DDMs screen is displayed.

For unloading in batch mode, see Executing NATUNLD in Batch Mode.

Below is information on:

- Functions for DDMs
- Parameters for DDMs

Functions for DDMs

The Unload DDMs function on mainframes unloads DDMs from the system file FDIC. See also File Assignments in the section Introduction.

From the Unload DDMs screen, invoke the following functions by entering a code, or a command in the command line, or by pressing a PF key:

Code	PF Key	Function	Explanation
	Command		
A		Unload DDMs	Unloads all DDMs.
	PF4 (E-Msg)	Unload Error Messages	See the section Error Messages.
	ERROR		
	PF5 (Object)	Unload Programming Objects	See the section Programming Objects.
	OBJECTS		
	PF7 (Del.)	Unload Delete Instructions	See the section Delete Instructions for DDMs.
	DELETE		
	PF10 (Files)	File Assignments for NATUNLD	See File Assignments in the section Introduction.
	FILES		

Parameters for DDMs

To execute one of the functions on the Unload DDMs screen, enter the corresponding function code and, if required, the following parameters:

Field	Explanation
DDM Name	The name of the DDM to be unloaded. To unload all DDMs from the system file, leave this field blank or enter an asterisk (*). To unload multiple DDMs, use the same range notations as described for Object Name in Parameters for Programming Objects.
DDM DBID	To unload only DDMs which have a specific database ID, enter that database ID in this field. Database ID is the ID of the physical database file of which the DDM is the logical representation.
DDM FNR	To unload only DDMs which have a specific file number, enter that file number in this field. File number is the number of the physical database file of which the DDM is the logical representation.
PC Download	Here the same applies as described for PC Download in Parameters for Programming Objects.

Error Messages

Each of the functions below unloads Natural system error messages from the system file FNAT, and user-defined error messages from one or more libraries on the system files FNAT or FUSER; libraries whose names begin with SYS (except for the library SYSTEM) are, by default, unloaded from the FNAT file; all other libraries are unloaded from the FUSER file. See also File Assignments in the section Introduction.

 **To invoke the Unload Error Message function**

- Enter the command ERROR in the command line.
Or press PF4 (E-Msg) on the Unload Programming Objects or Unload DDMs screen.
The Unload Error Messages screen is displayed.

For unloading in batch mode, see Executing NATUNLD in Batch Mode.

Below is information on:

- Functions for Error Messages
- Parameters for Error Messages

Functions for Error Messages

From the Unload Error Messages screen, invoke the following functions by entering a code, or a command in the command line, or by pressing a PF key:

Code	PF Key	Function	Explanation
	Command		
A		Unload Short and Long Error Messages	Unloads error messages which exist in short and/or long form.
S		Unload only Short Error Messages	Unloads only error messages which exist in short form.
L		Unload only Long Error Messages	Unloads only error messages which exist in long form.
H		Unload Natural Help Texts	Natural help texts from the FNAT system file.
	PF4 (Object) OBJECTS	Unload Programming Objects	See the section Programming Objects.
	PF5 (DDMs) DDM	Unload DDMs	See the section DDMs.
	PF7 (Del.) DELETE	Unload Delete Instructions for Error Messages	See the section Delete Instructions for Error Messages.
	PF10 (Files) FILES	File Assignments for NATUNLD	See the section File Assignments in the Introduction.

Parameters for Error Messages

To execute one of the functions on the Unload Error Messages screen, enter the corresponding function code and, if required, the following parameters (the function Unload Natural Help Texts requires no parameters):

Field	Explanation
User/Natural	Type of message to be unloaded: U user-defined error messages, N Natural system messages.
From Library	Only applies to user-defined error messages. The name of the library from which the user-defined error messages are to be unloaded. Here the same applies as described for From Library in Parameters for Programming Objects.
To Library	Only applies to user-defined error messages. The name of the library into which the user-defined error messages are to be loaded with NATLOAD. Here the same applies as described for To Library in Parameters for Programming Objects.
Error Number	The range of error message numbers to be unloaded.
Language Codes	The language code(s) of the error messages to be unloaded. For valid language codes, see the system variable *LANGUAGE in the Natural System Variables documentation. By default (*), messages in any language are unloaded.
PC Download	Here the same applies as described for PC Download in Parameters for Programming Objects.

Delete Instructions for Programming Objects

Use this function to write delete instructions for specific programming objects to the work file. When these instructions are loaded with NATLOAD into the target environment, they cause the specified objects to be deleted from the target environment.

To invoke the Unload Delete Instructions function

- Enter the command DELETE in the command line.
Or press PF7 (Del.) on the Unload Programming Objects screen.
The Unload Delete Instructions screen is displayed.

Below is information on:

- Functions for Delete Instructions - Programming Objects
- Parameters for Delete Instructions - Programming Objects

Functions for Delete Instructions - Programming Objects

From the Unload Delete Instructions screen, you can invoke the following functions by entering a code, or a command in the command line, or by pressing a PF key:

Code	PF Key	Function	Explanation
	Command		
A		Delete All/Individual Objects	Delete instructions for objects which exist in any form: in saved form, or cataloged form or both.
S		Delete only Saved Objects	Delete instructions for objects which exist in saved form.
C		Delete only Cataloged Objects	Delete instructions for objects which exist in cataloged form.
	PF4 (E-Msg) ERROR	Unload Delete Instructions for Error Messages	See the section Delete Instructions for Error Messages.
	PF5 (DDMs) DDM	Unload Delete Instructions for DDMs	See the section Delete Instructions for DDMs.
	PF7 (Unld) UNLOAD	Unload Programming Objects	See the section Programming Objects.
	PF10 (Files) FILES	File Assignments for NATUNLD	See File Assignments in the section Introduction.

Parameters for Delete Instructions - Programming Objects

To execute one of the functions, enter the appropriate function code and the following parameters:

Field	Explanation
Library	The name of the library from which the objects are to be deleted. You can only specify the name of a single library; a range of multiple libraries cannot be specified. By default, the library is selected from which NATUNLD was called.
Object Name	The name of the object to be deleted. If you leave this field blank or enter an asterisk (*), all objects in the specified library will be deleted. To delete multiple objects, see Names and Ranges in the section Introduction.
PC Download	Here the same applies as described for PC Download in Parameters for Programming Objects.

Delete Instructions for DDMs

Use this function to write delete instructions for specific DDMs to the work file. When these instructions are loaded with NATLOAD into the target environment, they cause the specified DDMs to be deleted from the target environment.

To invoke the Unload Delete Instructions for DDMs function

- Enter the command DELETE in the command line.
Or press PF7 (Del.) on the Unload DDMs screen.
The "Unload Delete Instructions for DDMs" screen is displayed.

Below is information on:

- Functions for Delete Instructions - DDMs
- Parameters for Delete Instructions - DDMs

Functions for Delete Instructions - DDMs

From the Unload Delete Instructions for DDMs screen, invoke the following functions by entering a code, or a command in the command line, or by pressing a PF key:

Code	PF Key	Function	Explanation
	Command		
A		Delete DDMs	All DDMs.
	PF4 (E-Msg)	Unload Delete Instructions for Error Messages	See the section Delete Instructions for Error Messages.
	ERROR		
	PF5 (Objct)	Unload Delete Instructions for Programming Objects	See the section Delete Instructions for Programming Objects.
	OBJECTS		
	PF7 (Unld)	Unload DDMs	See the section DDMs.
	UNLOAD		

Parameters for Delete Instructions - DDMs

To execute one of the functions, enter the appropriate function code and the following parameters:

Field	Explanation
DDM Name	The name of the DDM to be deleted. If you leave this field blank or enter an asterisk (*), all DDMs will be deleted from the target system file. To delete multiple objects, see Names and Ranges in the section Introduction.
PC Download	Here the same applies as described for PC Download in Parameters for Programming Objects.

Delete Instructions for Error Messages

Use this function to write delete instructions for specific error messages to the work file. When these instructions are loaded with NATLOAD into the target environment, they cause the specified error messages be deleted from the target environment.

To invoke the Unload Delete Instructions function for error messages

- Enter the command DELETE in the command line.
Or press PF7 (Del.) on the Unload Error Messages screen.
The Unload Delete Instructions screen for error messages is displayed.

Below is information on:

- Functions for Delete Instructions - Error Messages
- Parameters for Delete Instructions - Error Messages

Functions for Delete Instructions - Error Messages

From the Unload Delete Instructions screen for error messages you invoke the following functions by entering a code, or a command in the command line, or by pressing a PF key:

Code	PF Key	Function	Explanation
	Command		
A		Delete Short and Long Error Messages	Delete instructions for error messages which exist in short and/or long form.
L		Delete only Long Error Messages	Delete instructions for error messages which exist in long form.
	PF4 (Object) OBJECTS	Unload Delete Instructions for Programming Objects	See the section Delete Instructions for Programming Objects.
	PF5 (DDMs) DDM	Unload Delete Instructions for DDMs	See the section Delete Instructions for DDMs.
	PF7 (Unld) UNLOAD	Unload Error Messages	See the section Error Messages.
	PF10 (Files) FILES	File Assignments for NATUNLD	See File Assignments in the section Introduction.

Parameters for Delete Instructions - Error Messages

To execute one of the functions, enter the appropriate function code and the following parameters:

Field	Explanation
User/Natural	Type of message to be deleted: U user-defined error messages, N Natural system messages.
Library	Applies to user-defined error messages only. The name of the library from which the messages are to be deleted. You can only specify the name of a single library; a range of multiple libraries cannot be specified. By default, the library is selected from which NATUNLD was called.
Error Number	The range of error message numbers to be deleted.
Language Codes	The language code(s) of the error messages to be deleted. For valid language codes, see the system variable *LANGUAGE in the Natural System Variables documentation. By default (*), messages in any language are deleted.
PC Download	Here the same applies as described for PC Download in Parameters for Programming Objects.

Executing NATUNLD in Batch Mode

For the execution of NATUNLD in batch mode, use direct commands.

When you use a direct command, observe the following rules:

- The profile parameters PS and LS should be set to at least PS=78 and LS=220.
- The keyword NATUNLD can be placed in a line by itself.
- To separate the individual parameters of a direct command from one another, use either blanks or the input delimiter character as defined by the session parameter ID; the default is comma.
- If the string of parameters is longer than a single line, enter the character defined with the session parameter CF

(default is %) at the end of every line that belongs to the command. This indicates continuation on the next line. However, this is only possible if you specify the command NATUNLD in a line by itself. That is, you cannot use CF, if you enter NATUNLD in the same line where a multi-line command starts.

- To indicate the end of the command input, specify a line containing the keyword END or one of its synonyms.

The syntax of the NATUNLD direct commands and Examples of Direct Commands for NATUNLD in Batch Mode are shown in the section NATUNLD/NATLOAD Direct Commands.

Below is information on:

- Condition Codes and User Exits in Batch Mode

Condition Codes and User Exits in Batch Mode

Below is a description of NATUNLD condition codes and user exits available in batch mode.

The sources of NATUNLD user exits are named U-S-EX nn , where nn denotes the number of the user exit. The user exits are delivered in the Natural system library SYSUNLD.

To make a user exit available, catalog it under the name UNLDEX nn , either in the Natural system library SYSUNLD or in one of its steplib.

The name of each user exit source is different from the name of the corresponding cataloged object. This guarantees that the object is not affected if the user exit source is overwritten by an installation update.

NATUNLD processing in batch mode terminates with one of the following condition codes:

Code	Explanation
0	Unloading executed successfully.
37	Only applies in connection with the user exit UNLDEX01 (*). This user exit can be used to terminate unloading with Condition Code 37 if the objects requested cannot be found. For details, see the source code of UNLDEX01. If the user exit UNLDEX01 is not available, unloading continues and no Condition Code 37 is issued.
38	Unloading request rejected by Natural Security: If you attempt to unload objects from a library you are not allowed to access due to Natural Security definitions, NATUNLD terminates with Condition Code 38. If available, user exit UNLDEX02 will be invoked. Here you can specify whether to continue unloading without that library or terminate NATUNLD with Condition Code 38. The source code of user exit UNLDEX02 is provided under the name U-S-EX02 in the library SYSUNLD.
40	An error occurred; unloading terminated. With Condition Code 40, the user exit UNLDEX01 (*), if available, will be invoked at the termination of processing.

* The source code of the user exit UNLDEX01 is provided under the name U-S-EX01 in the library SYSUNLD.

NATUNLD Report

The NATUNLD utility generates (online and in batch mode) a report containing a list of the objects that were unloaded.

When you leave NATUNLD after the report has been displayed, a statistical report will be displayed listing the number of objects processed.

See also NATUNLD/NATLOAD Commands for Reports in the section NATUNLD/NATLOAD Direct Commands.